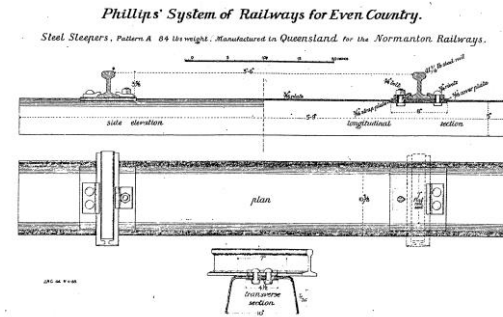
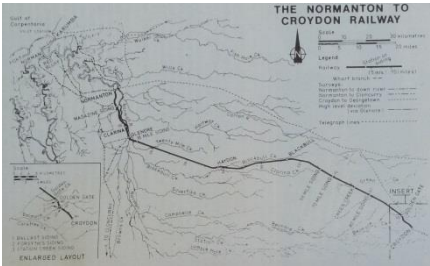


Normanton to Croydon Railway Line



The railway line linking Normanton to Croydon (some 94 miles or 169 km) was built between 1888 and 1891 to service the goldfields near Croydon. It remains the last isolated line of Queensland Rail still in use. The design principles adopted by the designer George Phillips were a radical departure from established practice in the building of the pioneer railways of Queensland at the time. The traditional form of railway construction was more akin to the European methods whereby track was laid on sleepers supported on ballast and generally above flood levels. This was expensive. Phillips proposed that for the flat country of western Queensland a more economical solution was to lay the track directly on sleepers on prepared natural surface. When constructed, the railway utilised an innovative system of submersible track with patented steel sleepers. These sleepers remain in use today.

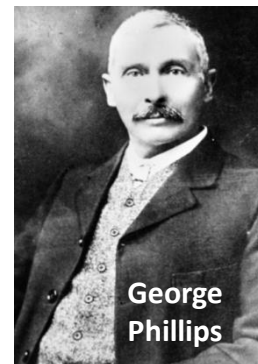
Sleeper Statistics

Number of steel sleepers used is over 200000. Sleepers came from Toowoomba Foundry in Brisbane and from England. Sleepers each weighed around 42kgs.. Where steel sleepers could not be supplied in time, timber sleepers were used. As these deteriorated they were replaced by steel sleepers

The design patented by Phillips in 1884 had open ends for his steel sleepers. Phillips also devised a series of rail fastenings and clips to hold the rails to the sleepers. In advance of laying the rail, the right of way was ploughed and lightly harrowed. The sleeper was then laid directly on the ground surface, gradually sinking with the weight of trains until the sides of the sleeper cut through the ploughed earth. As a result the sleeper came to be packed with soil. The sleepers were coated in pitch, to provide a waterproofing. Part of Phillips' reasoning for the use of steel as a construction material was related to his own direct experience in this part of the world. He was acutely aware of the difficulties that would be encountered in obtaining adequate supplies of timber for building, and railway sleepers. Steel sleepers were resistant to attack from termites, a common occurrence for timber in the tropics.



Head of construction at the 25½ mile mark, looking towards Croydon, in 1888. The right of way can be seen prepared, with sleepers ready to be placed onto the ground by the plate laying gang. Rails would then be fastened to the sleepers. The photo was taken with the photographer balancing on top of the cab of the A10 Class locomotive. (Phillips Album)



George Phillips was born in England in 1843 and died on June 2, 1921 in Queensland; his family migrated to Australia when he was eight. He qualified as a surveyor. In 1874 he joined the Railway Department and remained in its service until 1886 as surveyor and engineer. In 1888 Phillips was contracted by the government to survey and supervise the construction of the Normanton to Croydon Railway. He demonstrated his ingenuity in challenging the design standards of the day, in developing technical solutions appropriate to the environment and in supervising the construction of the railway. From 1893 to 1896 Phillips was the MLA for Carpentaria



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